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European Unemployment:
Macroeconomic Aspects

Unemployment in the EU and the US:
A Macroeconomic Perspective

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RSC No. 97/44

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EUI Working Paper RSC No. 97/44

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EUROPEAN UNIVERSITY INSTITUTE, FLORENCE

ROBERT SCHUMAN CENTRE

European Unemployment: Macroeconomic Aspects

**Unemployment in the EU and the US:
A Macroeconomic Perspective**

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Paper presented at the Conference of the RSC on
European Unemployment: Macroeconomic Aspects
held at the EUI on 21-22 Nov. 1996, and organised by Michael Artis
(in collaboration with the Economics Department and the European Forum)
with financial support from the European Commission, DG V

EUI Working Paper RSC No. 97/44

BADIA FIESOLANA, SAN DOMENICO (FI)

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Printed in Italy in August 1997
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Abstract

Developments in the rate of unemployment have been of increasing concern to EU Member States. Unemployment across much of the EU stands at a historically high level, an average of 10.8% in late 1996. Moreover, analysis of the medium- to long-term behaviour of labour markets in the EU reveals a widespread upward trend in the level of unemployment. Both the recent and longer term performance of labour markets in the EU contrasts markedly with that of a number of major non-EU countries, such as Japan and the US. In these countries the level of unemployment is considerably lower; 5.2% for the US in September 1996 and 3.3% for Japan. There has also been either no long-term tendency for unemployment to rise, or it has risen only gradually from much lower levels. Unemployment trends in the EU and the US appear to have diverged particularly significantly from the early 1980s onwards.

Against this background, the paper seeks to outline the main economic features of the EU and the US respectively, and to consider what possible lessons the US experience may have for the EU. After noting several methodological and measurement issues, the paper focuses on the main differences and similarities between the EU and the US in terms of labour markets and broader macroeconomic performance, distinguishing short-run and longer term developments. In the short term, labour market performance of the EU and the US around the latest cyclical turning point is reviewed, and compared to earlier cycles. In the 1990s recovery, GDP growth and employment have not been very different over comparable periods, but whereas EU experience is similar to that of previous cycles, US performance has been noticeably more subdued. In examining the factors that may underlie the longer-term differences identified, the paper emphasises the importance of structural factors, but also considers developments in fiscal and monetary policy in the EU, and possible spillover effects from the US to the EU. It suggests that while higher real interest rates, due to fiscal imbalances, may have contributed to the diverse unemployment trends this is unlikely to have played a major role. As regards monetary policy, the paper argues that this cannot be held responsible for the poor performance of EU labour markets. Rather, monetary policy can best contribute to economic performance by pursuing price stability. In considering, therefore, the extent to which the US can serve as a model for the EU, and the lessons that can be learned, the paper points towards structural and institutional reforms in labour and product markets as being necessary to create a more flexible and dynamic European economy.

1. Introduction¹

Developments in the rate of unemployment have been of increasing concern to EU Member States. This concern may be considered to stem from several characteristics of European labour market behaviour. First, a concern stems from the recent rises in unemployment across much of the EU², from what is already a comparatively high level. A second concern derives from the more medium and long-term behaviour of the European labour market. Analysis of unemployment rates over the longer term reveals a widespread trend within the EU towards higher unemployment rates. In several European countries measures have recently been implemented (or proposed) in order to deal with the current high unemployment focusing on underlying structural problems in labour and product markets. Various international institutions, such as the European Commission and OECD³, have highlighted the need for such structural reforms. However, evidence remains incomplete on the extent to which the measures taken to date have led to a significant improvement in the functioning of labour markets⁴.

There are a number of reasons for being concerned about the current high unemployment rate prevailing in the EU;

- it has clear and serious social welfare implications,
- it represents a considerable waste of human resources that could be used in more productive ways,
- it places a substantial additional burden on fiscal positions which are already strained,

¹ This paper was presented at a conference at the European University Institute in Florence, on 21-22 November, 1996 on the macroeconomic aspects of European unemployment. Heinz Christian Dieden, Andrew Kanutin and Beatriz Ruiz González provided valuable research assistance. Valuable comments have been received from several EMI Staff Members, in particular S. Boll, E.P. Davis, P. Moutot, P. Petit, A. van Riet and W. Schill. Any remaining errors are those of the author, who is an economist at the European Monetary Institute. The views expressed are those of the author and not those of the EMI.

² In general, in this study the EU refers to the fifteen Member States, with aggregates calculated using all countries throughout the period. The main exception is Section 3, where data for only the five largest EU countries (Germany, Spain, France, Italy and the UK) are aggregated together.

³ See, for example, European Commission (1994) and OECD (1994). Layard et al (1991) provide a thorough analysis of the background to behaviour in labour markets in OECD countries.

⁴ See, for example, Morgan (1996a,b) for a recent assessment of structural change in labour markets in several major European countries.

- it may undermine the support for independence of central banks, lead to inappropriate pressures on monetary authorities to ease monetary policy, and thus increase the risk of higher inflation.

Both the recent and longer term performance of labour markets in the EU may be considered to contrast somewhat with that of major non-EU countries, such as Japan and the US. In the EU, the unemployment rate (according to Eurostat figures) in September was 10.8%, while in the US and Japan the level of unemployment is considerably lower; 5.2% for the US in September 1996 and 3.3% for Japan. There has also been either no long-term tendency for unemployment to rise, or it has risen only gradually from much lower levels.

Comparisons have frequently been drawn between the labour market performance of the EU and the US, illustrating that unemployment trends in the former have been far worse than in the latter. More precisely, although unemployment rates rose both in the EU and the US during the course of the 1970s, they began to diverge significantly from one another from the early 1980s onwards⁵. The unemployment rate fell sharply in the US in 1984, and continued to decline steadily up to 1989. In contrast, EU unemployment rose until 1986 and fell only gradually over the period 1987-90. The gap between unemployment rates in the EU and US reached a peak in 1988 of around 4 percentage points (compared to 1.1% over the period 1980-83). In both the EU and the US, cyclical developments led to a rise in unemployment in the early 1990s, but whereas the rise in US unemployment, up to 1992, was modest, and more than offset by the decline thereafter, EU unemployment continued to increase to 1994 and has barely changed since then. By 1996, the gap in unemployment rates had thus widened even further, to almost 6 percentage points.

Against this background, the aim of this study is to outline the main structural features of the EU and the US economies respectively, and to consider what possible lessons the US experience may have for the EU. In this context, it is important to bear in mind a number of caveats. For the purposes of this study, reference is primarily made to EU aggregates, but it should be stressed that the situations of individual Member States do in fact vary significantly, and that the arguments applied to the EU as a whole may be more or less important for individual countries. This applies, first, to the level of unemployment in EU

⁵ In fact, before the 1980s, the rate of unemployment in EU countries was consistently lower than in the US.

Member States. In 1995, unemployment rates varied within the EU from 3.0% (Luxembourg) to 22.9% (Spain). However, in all but two countries (Luxembourg and Austria), the unemployment rate was above that of the US. Secondly, upward trends have been stronger in some countries than in others⁶.

There are also differences across countries in the measurement of certain macroeconomic variables. These could affect both comparisons of the EU with the US, and the construction of some EU aggregates. Of particular importance is the measurement of unemployment itself. An additional issue here is whether the common definitions used accurately reflect the unemployment situation. Table 1 shows some OECD estimates for 1993, of unemployment rates for EU countries and the US, together with several supplementary measures of labour market slack (adjustments for discouraged workers and involuntary part-time workers). Although the difference between the EU and the US does not entirely disappear, it is reduced significantly, the main factor being the element of involuntary part-time work in the US. This points towards a degree of caution in these international comparisons.

Finally, the focus in this paper is on developments over a longer-term perspective. Comparisons based on the period 1980-96 are to some extent likely to be affected by differences in the timing of economic cycles. For example, the EU underwent a recession in 1992-93, whereas the US recession took place two years earlier, and has now experienced five years of sustained economic growth.

The paper is structured as follows; in Section 2 below, a brief overview of US economic developments is provided, on the basis of the latest data and against a historical perspective. The aim of this section is to identify the main differences and similarities with the EU in terms of the broader macroeconomic performance. Where the comparison reveals a poorer record for the EU, it is also useful to note whether there has been a marked deterioration in performance relative to past experience of the EU. A distinction may be drawn between short-run and longer term developments. In Section 3, the performance of the EU and the US around the latest cyclical turning point is reviewed, and compared to earlier cycles. In

⁶ It may also be argued that there are methodological problems in drawing comparisons between the EU and US since, unlike the US, the EU cannot be considered to have a single labour market. Although this point certainly has some force, a number of the factors inhibiting the existence of a single labour market across EU countries over the period considered may also be considered to apply to a greater or lesser extent to labour markets within individual countries (including the US).

Section 4, an attempt is made to discern the factors that underlie the longer-term differences identified. Structural and institutional factors are emphasised, but the possible role of macroeconomic policy (developments in fiscal and monetary policies in the EU and possible spillover effects from the US to the EU) is also considered briefly. Finally, in Section 5, the study tentatively considers to what extent the US can indeed serve as a model for the EU; and the lessons that can be learned.

2. Main economic features of the EU and US compared

The economic situation of the US, viewed in late-1996, appears from a European standpoint to be very favourable; economic growth is at, or close to, the long-run sustainable growth rate and the level of output is close to potential; there is low inflation; strong employment growth and a low unemployment rate. The US also enjoys a significantly improved fiscal position, with a debt ratio that has stabilised and a falling deficit to GDP ratio; as well as relatively low short- and long-term nominal interest rates. From a macroeconomic perspective, the US economy may claim to have achieved, for the time being at least, a "gold medal" for its recent economic performance. In comparison, the economic situation of the EU appears to be much less favourable. It is not surprising therefore that a number of commentators have looked to the US as a source of possible answers to the economic problems facing the EU.

A number of key features of the EU and US economies are compared in Table 2 and in the Charts attached. All data are annual, taken from the latest OECD Economic Outlook (June 1996). The focus is principally on the period since 1980, including where possible the latest projection for 1996. The following points may be highlighted;

- Real GDP growth: GDP growth in the EU and US from 1980 to 1996 is shown in Chart 1. Over the period 1980-96, average US growth has been slightly higher than in the EU; 2.4% in the US compared with 2.0% in the EU⁷. However, growth has also been more volatile in the US; with a standard deviation of 2.1%, compared with 1.2% for the EU. As noted earlier, in 1996, the US experienced its

⁷ This is somewhat susceptible to the period chosen; average GDP growth over 1975-95 in the EU was 2.1%, compared to 2.5% in the US, but over the period 1970-96 real GDP growth was almost identical, at around 2.5%.

fifth successive year of sustained economic growth. Real GDP rose by 2.0% in 1995 (compared to 3.5% in the previous year) and is expected to rise by 2.3% in 1996. Growth in the EU was slightly above that of the US in 1995, at 2.5%, but is expected by the OECD to slow to 1.4% in 1996.

- Inflation rates: For the period 1980-96 as a whole, inflation in the EU has exceeded that in the US; in the EU average inflation was 6.2% over this period, while in the US inflation averaged 4.8% (inflation rates are compared in Chart 2). In 1995, inflation in the US was estimated to be at or below 3% for the fourth successive year, and this is forecast by the OECD to be repeated in 1996. EU inflation (data for which needs to be treated with caution, as the national CPIs are not strictly comparable) has fallen from a recent high of 5.7% in 1990, to around 3% in 1994 and was unchanged in 1995.

- Labour markets: There is a strong contrast between the EU and US in terms of employment performance over the longer term (Chart 1). US employment has risen by a cumulative 27% (an average rate of around 1.5% per annum) over the period 1980-96, compared to a cumulative rise in EU employment of just over 2% over the same period; while the US has created over 27 million additional jobs since 1980, the EU has created only 3 million additional jobs. In both cases, employment growth is clearly related to GDP growth (Chart 1), but the link appears weaker for the EU. Employment has grown strongly in the US in the past three years, by 1.8% per annum on average, and is expected to continue to rise in 1996 (by 1.1%). In the EU, taking the same four year period (1993-96), the level of employment will have been broadly flat.

Differences in employment creation may be considered the primary factor underlying the contrasting performance of the EU and the US in terms of unemployment. The unemployment performance in the latter is all the more remarkable since the US has seen both a much stronger growth in the labour force over the whole period since 1980, and at the same time has experienced a rise in the participation rate, the latter defined as the labour force as a per cent of the working age population (Chart 3). In the US, participation has risen from just over 70% in 1980, to over 77% in 1996, whereas the EU participation rate is significantly lower (estimated to be around 66% in 1996) and has been almost unchanged since 1980.

Differences in unemployment patterns have already been noted. The US unemployment rate is apparently not subject to the same upward trend that has

affected the EU. Indeed, while in 1996 the EU unemployment rate is expected to be around 5.8 percentage points higher than in 1980, the US unemployment rate is actually expected to be some 1.7 percentage points lower⁸.

- **Fiscal positions:** Fiscal data are shown in Chart 4. While debt positions in the EU and in the US have both worsened significantly in the period since 1980, the last few years have seen a divergence in trends. Over the period as a whole, US average deficits were 2.7% of GDP compared to 4.6% in the EU. Debt ratios were 52.8% and 59.7% respectively. The US fiscal position has improved since the 1990s recession; the general government deficit⁹ has fallen from 4.4% of GDP in 1992, to 2.0% in 1995, and while not expected to fall much further in 1996, should remain under 2% of GDP. The gross debt to GDP ratio has recently stabilised at around 64%. EU general government debt continues to rise as a proportion of GDP, reaching an estimated 78.1% in 1996. EU deficits have also been declining, but starting from a much higher level, and they remain significantly higher than in the US. In 1996, the OECD estimates that the EU general government deficit will be 4.8%, over twice as high as in the US.

Over the period 1980-96, average structural deficits, as is to be expected, are broadly similar to actual deficits. However, comparisons of structural deficits are relevant when considering recent developments, given differences in cyclical positions. The OECD estimate that the estimated US structural budget deficit was estimated to be 2.1% of GDP in 1995 by the OECD, while the EU structural deficit was estimated to be around 4.5% of GDP. This does not suggest the need to significantly revise assessments about relative fiscal positions based on actual deficits.

- **Market interest rates:** Short- and long-term nominal interest rates¹⁰ are shown in Charts 5-6. Although there have been variations over the period, there are no indications of diverging trends. A slight downward path is apparent in both short- and long-rates over the period 1980-96. For the period as a whole,

⁸ As in the EU, there are, however, sizeable differences in the level of unemployment across the different US states, ranging in early 1996 from 2.7% in Nebraska (and 2.9% in North Dakota) to 8.8% in the District of Columbia (and 8.0% in West Virginia).

⁹ Note that the OECD fiscal data are not wholly consistent with the Maastricht definitions, which are more often used for comparisons between EU countries.

¹⁰ The former are three month money market rates, the latter government bond yields, usually of around 10 years maturity. Figures for the EU are weighted according to 1993 GDP weights, no OECD figures are available for Greece, Luxembourg, and Portugal, which together comprise around 3.8% of total EU GDP.

weighted average EU short-term interest rates were 9.4%, compared to 6.5% in the US, while long-term interest rates, at 10%, were 130 basis points higher on average than in the US. In 1996, short-term interest rates in the EU are expected to be only slightly above those of the US (5.4% compared to 5.1%), while a modest fall in the long-term interest rate differential is also expected (such that US long rates, at 6.6%, stand at around 110 basis points below EU rates, compared with 200 basis points in 1995). Real (long-term) interest rates cannot be quantified with precision, due to the difficulties of measuring ex-ante inflation expectations. A recent study by the G-10 (1995), concluded that real interest rates have risen significantly since the 1960s, in the US as well as in the EU countries examined (Belgium, Germany, France, Italy, the Netherlands, Sweden and the United Kingdom).

3. Cyclical patterns: contrasting experiences in recession and recovery

In addition to considering developments over the period as a whole, the pattern of behaviour in labour markets around cyclical turning points may also be of interest. Charts 7-9 show the periods surrounding the economic troughs over the latest three economic cycles (comparing the 1990s recoveries with those of the 1970s and 1980s) for GDP, employment and nominal short-term interest rates¹¹. The charts show developments for the four quarters prior to each trough in economic activity, and up to eighteen quarters following the trough. Shaded periods correspond to the chosen recession periods. The charts thus place particular emphasis on the recovery periods in the latest cycle relative to earlier cycles.

- As can be seen in Chart 7, GDP growth from the trough onwards in the 1990s has been weaker in the EU than in the 1970s, but slightly stronger than in the 1980s, while US GDP growth has been markedly weaker than in either the 1970s or 1980s upturns; and in the latest cycle growth appears to be broadly similar to that in the EU over a comparable period (the different timing of the business cycles means that data for the EU is only available for thirteen quarters from the 1990s trough).

¹¹ There are difficulties in determining the precise timing of turning points in the economy, depending on the series chosen (manufacturing output or GDP) and whether the choice is based on turning points in the actual series or, for example, by the magnitude of deviations from trend. Turning points in this study are based on actual GDP. The US "double-dip" recession in the early 1980s is treated as a single recession.

- Employment growth (Chart 8) has been stronger in the US than in the EU over the same period in the 1990s. The contrast is particularly marked for the first phase of the economic upturn. In past cyclical recoveries employment growth in the EU has been either modest or negative. As for GDP, the experience of the latest recovery period again lies between the two earlier cases.

- As may be seen from Chart 9, the unemployment rate in the EU, in contrast to that of the US, has fluctuated around a higher level in each cycle, reflecting the secular upward trend over time. Considering the change in unemployment from the trough, there is greater similarity between the 1990s and 1970s than with the 1980s, when unemployment rates rose sharply for an extended period. US unemployment rates are much closer together during recovery periods, and follow the same general trend, although the peak in unemployment around the trough was much lower (and came later) in the 1990s. At least for the period shown in the chart, the development of unemployment during the recovery was very similar in the 1990s and 1970s, and slightly below that of the 1980s. The quicker and more pronounced turnaround in unemployment (and employment) also appears to point towards greater labour market flexibility in the US.

4. Factors underlying the different performance of the EU and US

In addition to higher unemployment and weaker employment creation, more adverse fiscal developments, higher short- and long-term interest rates and slower real GDP growth tend to stand out as areas where the EU appears to have performed more poorly relative to the US over the longer-term. The inflation performance of the EU has also been slightly worse overall, but the difference in recent years has been less marked.

On the face of it structural factors seem a more likely explanation than cyclical developments for the different labour market trends, since the difference in unemployment performance has persisted for more than a decade now. Accordingly, these are addressed first (Section 4.1). However, after discussing factors of a more structural nature, some assessment of potential macroeconomic factors may nonetheless be useful, and hence domestic fiscal and monetary policies in the EU and possible adverse spillover effects from other countries

(notably the US), are also briefly considered (Section 4.2)¹². Comparison of the EU and the US at this point is complicated by the fact that there has been no single monetary or fiscal policy in the EU, and the earlier caution about the use of averages to describe the EU is therefore even more relevant here.

4.1 Structural factors

Concerning the more *structural factors* in the economic environment that may be considered to underlie differences in the longer-term performance of the EU and US economies identified above, stress may be placed on the behaviour of labour and product markets (including the respective burdens of tax and social security systems).

The importance of structural factors may be derived from the observation that stronger economic growth would not appear to make a significant difference to the level of unemployment, as can be seen from comparing estimates of the “employment intensity of growth” for the EU and US. This is sometimes proxied by the so-called “employment threshold”, defined as the percentage change above which the growth rate of GDP is related to increases in employment¹³. Simple calculations suggest that the employment threshold for the US is much lower than for the EU (for the period 1980-96, the threshold for the US is 0.9% compared to 1.9% for the EU).

Another way of expressing this is simply to look at the ratio of employment growth to that of GDP; this was 0.073 and 0.612 for the EU and the US respectively measured over the period 1980-96. Thus, on the basis of past experience, employment growth in the EU matching that in the US over the period since 1980 (up to and including 1996) would have required a much higher average real GDP growth rate. Questions have been asked about the “quality” of many of the jobs created in the US since the last recession (the percentage of “hamburger-flipping” jobs in the total). However, a report by the US Council of Economic Advisers (1996) argues that this does not explain the recent

¹² A link between macroeconomic policy and long-term patterns of unemployment could be provided by hysteresis explanations of unemployment (see, for example, Elmeskov and MacFarlan (1993)), combining the effects of economic shocks and structural labour market problems.

¹³ See, for example, the 1993 White Paper published by the European Commission, entitled “Growth, competitiveness, employment: the challenges and ways forward into the 21st century”.

employment growth record. Raising the employment intensity of growth would improve labour market performance. Revenga and Bentolila (1995) estimated the determinants of the employment intensity of growth for eleven OECD countries. They concluded that reducing employers' firing costs and greater inter-union co-ordination combined with reduced insider bargaining power would be likely to have a positive impact, but that other policy measures, such as lower unemployment benefits and active labour market policies seemed to have no significant effect on the relationship between GDP growth and employment.

A number of empirical studies have suggested that the NAIRU has risen substantially in a number of EU countries over the longer-term, in contrast to the US, reflecting the influence of structural rigidities. For the US, the NAIRU is typically estimated to be around 5.5-6.0%. Recent developments suggest it may be even lower. But for the EU, the NAIRU may be as high as 10%¹⁴. These estimates of the NAIRU, though imprecise, tend to suggest that stronger demand in the EU, leading to a significant decline in unemployment, could be expected to have adverse consequences for inflation rates (Chart 10).

One factor underlying the longer-term difference in unemployment performance between the EU and the US may be high labour costs. There has been a significant difference between trends in employee compensation in the EU and the US (see Chart 11). While real compensation per employee has increased only modestly in the US since 1980, by around 7.5% (and fell between 1988-91), the rise in the EU has been much stronger (over 18%). This could be attributed to a number of factors, notably a convergence of productivity levels (with the EU "catching-up" with the US) and higher EU saving and investment rates enabling a faster rise in the capital stock. However, there may also have been some reverse causality, with faster rises in the capital-labour ratio in the EU reflecting the

¹⁴ Estimates of the NAIRU may be derived in a number of ways, see for example Elmeskov and MacFarlan (1993). Further evidence is provided by Bianchi and Zoega (1996), who estimate equilibrium unemployment rates for OECD countries, by calculating the mean after adjusting for regime shifts. Allowing for more recent data, and possible further regime shifts in several countries (Germany, Finland, Sweden and the UK), suggests that figures of 5.5-6.0% for the US and 10.0% for the EU are quite plausible. Of course, uncertainties remain. Staiger, Stock and Watson (1996), for instance, illustrate the high degree of uncertainty by estimating confidence intervals about the NAIRU for the US. They find that in 1990 the 95% band encompasses values of 5.1-7.7%. Röger and in't Veld (1996) suggest that the uncertainty for European countries may be even greater. In addition, such NAIRU estimates do not allow for structural changes that have taken place but are not yet reflected in the data.

response of the corporate sector to higher wage pressures. The response of wages to developments in inflation and unemployment are an important factor in determining outcomes for the labour market. In this context, a number of empirical studies have found that real and nominal wage rigidities in EU countries tend to be higher than in the US (Andersen (1992), Layard et al (1991), among others).

While real wages have increased much more slowly in the US overall, concern has focused in particular on the wages of unskilled workers and the relatively high (and increasing) income inequality. One consideration is whether lower unemployment in the EU could be achieved only at the expense of significant social costs, most notably perhaps in terms of - as in the US - greater earnings inequality and increased job insecurity. The impact of greater wage inequality appears to be somewhat mitigated in the US by a higher degree of earnings mobility (that is, a higher movement of workers between earnings bands over time) than in the EU¹⁵. Other aspects of the US labour market which might also promote increased flexibility, such as geographical labour mobility (particularly across state boundaries), would be difficult to replicate in the EU because of

¹⁵ See OECD (1996), *Employment Outlook*. In 1995, the ratio of ninth to first decile earnings for male and female employees in the US was 4.39, compared to 3.38 in the UK, 3.28 in France (1994), 2.80 in Italy (1993) and 2.32 in Germany (1993). Only in the UK and the US does there appear to have been a significant increase since the early 1980s. It is also important to complement the analysis with an examination of earnings mobility since, to the extent that workers also move more between earnings bands over time, the degree of lifetime earnings inequality will be affected. The OECD concludes that "whether countries face a trade-off between allowing earnings inequality to rise or worsening the employment prospects of low-skilled workers is far from resolved...the growth of earnings inequality and its causes and consequences are likely to remain topics of intense study and debate for some time to come". While higher real wage and non-wage labour costs in the EU, and different labour market responses to shifts in the relative demand for skilled and unskilled workers (due to technological progress and increased trade and competition from developing countries) may account for some of the changes in unemployment and wage dispersion, this may not be the whole explanation. Bertola and Ichino (1995) examine the link between wage inequality and unemployment in the US and Europe, describing a model that explains the observed changes in the two areas in terms of similar increases in labour demand volatility interacting with different institutional labour markets, leading to higher wage inequality in the US and greater unemployment in the EU. They highlight the role of greater "within-group" earnings differentials in the US in stimulating local or regional labour mobility. In the EU, however, it is suggested that centralised wage arrangements often restrict earnings differentials, thereby reducing the incentives for labour mobility. US trends in wage differentials have been the subject of some concern; see for example, *New England Economic Review* (1996), May/June, special issue on earnings inequality.

factors such as language and culture¹⁶. Whether this plays an important role, however, in explaining different unemployment trends is less certain. It has been observed, for example, that countries with greater earnings inequality do not have lower unemployment rates among low-skilled workers (see, DIW (1996)). In addition, labour mobility may be considered low in most, if not all, EU countries, while the role of US labour mobility in helping labour markets to adjust has also been disputed¹⁷.

An area in which it has often been emphasised that there is a marked contrast between the EU and US is in the scale of non-wage labour costs. There is also some empirical evidence to suggest that changes in the “wedge” (the difference between the cost of an employee to the employer and the net wage the employee receives) may have a permanent effect on real labour costs, see Tyrväinen (1995). The burden of tax and social security payments has clearly been higher in the EU (see Chart 12) and this may be expected to have reduced employment growth, especially through substitution and relocation effects. In 1975, the ratio of these payroll and employers’ social security contributions as a percentage of GDP was just under 7% in the EU (weighted average) and around 3% in the US. As a percentage of GDP the costs are significantly higher. However, there has been a rise of similar scale in this ratio both the EU and US, mainly in the period to 1985. There is some question therefore as to what extent this may be considered, particularly in the long-run, as an explanation of the rise in EU unemployment relative to the US.

There is some evidence of significant differences between the EU and the US in other structural and institutional features of labour markets (see, for example, Heylen and van Poeck (1995) and various OECD publications). The US labour market is generally characterised as being more flexible, although there are substantial differences in the type of rigidities that exist in individual EU countries. Concerning unemployment insurance systems, for example, the US has a comparatively low replacement ratio and relatively short duration of benefits, while employment protection legislation (such as minimum wages, working hour restrictions, hiring and firing costs, fixed term contracts, etc.) also suggests

¹⁶ The OECD Jobs study (1994) reported data for some countries on migration *within* countries, for the period up to the mid-1980s, confirming the relatively high degree of labour mobility in the US relative to individual EU countries. As a percentage of the total population, internal migration was around 3% in the US, compared to a range of 0.6% to 1.3% for Germany, France, Italy and the UK.

¹⁷ See Buiter (1995).

greater overall labour market flexibility. A number of factors therefore are likely to contribute to higher structural unemployment in the EU and to higher unemployment persistence.

In recent years, reforms intended to increase labour market flexibility have been undertaken in some EU countries (see, IMF (1994)). However, further progress is needed to eliminate structural rigidities and improve the functioning of labour markets. While recent studies have made the differences between EU and US labour markets well-known¹⁸, uncertainty remains concerning the relative importance of individual features in accounting for the striking variation in labour market performance. In particular, the overall difference may reflect the combined impact of features whose individual contribution to higher unemployment in some cases may be quite limited. Further uncertainty derives from the possible interactions between various characteristics. Such considerations suggest the desirability of a wide range of reforms, if the performance of EU labour markets is not to continue to fall short of that in the US¹⁹. However, the structure of individual labour markets within the EU varies considerably and thus the measures needed may differ across EU countries. Moreover, it is important to bear in mind that among these alternative labour market institutions and structures some have operated with greater flexibility than others. This may also provide a potential source for analysis of possible reforms.

The possible beneficial impact of structural change on the rate of growth in the EU is not easily quantified. Over the period since 1980 as a whole, EU growth has averaged just 2%, almost 0.5 percentage point lower than in the US. The potential growth rate may vary slightly from this, but the figure is suggestive of the possibility that potential growth in the EU may also be slightly lower than in the US. It is difficult both to identify and to assess the importance of the reasons for this, but attention has tended to focus on the greater prevalence of a risk-taking or more entrepreneurial attitude in the US, perhaps supported by greater flexibility in markets.

18 See BHF-Bank (1996) for a recent example of a more detailed comparison of differences in labour market structures in Germany and the US.

19 Both Lindbeck (1996) and Wyplosz (1994), among others, stress the importance of implementing a number of reforms. Lindbeck recommends a "package approach" partly because some policy measures have an impact in the short-term, but others (such as improved training and education) are significant only in a longer-term perspective.

4.2 Macroeconomic policies

Given that the focus of the paper is on the comparison of developments in labour markets over the long-term, the role of macroeconomic policy should be considered as limited, and structural factors are to be emphasised. Indeed, there is a general consensus that the unemployment problem of the EU is largely of a structural nature. However, possible links from macroeconomic policy to the labour market are briefly reviewed in this section.

One possibility is that *EU fiscal policy* has been overly restrictive. Fitoussi and Phelps (1986) suggested that this might have played a role in the early 1980s. Such an argument might hold for certain sub-periods, but taking the period since 1980 as a whole, the evidence would seem to suggest rather that the opposite has been the case. Debt levels have tended to rise. Considering structural budget deficits, there is no strong evidence to support the case of sustained fiscal tightness. Moreover, simply comparing the EU with the US suggests that policy in the US has been more restrictive, certainly over the latter part of the period, but this has not altered the general profile of unemployment trends. Of course, even if fiscal policy had been persistently restrictive, the short-term contractionary impact on demand would have to be weighed against any other effects, particularly on real interest rates, which could mitigate or offset this effect (see EMI (1996)).

In fact, the reverse could be argued; fiscal policy in the EU has been too loose, and this has contributed to a rise in long-term real interest rates²⁰, the negative effects of which have come to dominate the traditional expansionary impact of higher government spending and/or lower taxes. As described earlier, average GDP growth in the EU has been slower than in the US over this period.

The argument that higher real interest rates may have led to a rise in unemployment has been advanced in a number of studies (see, for example, Fitoussi and Phelps (1986), and Phelps (1994,1995)). In earlier studies it was suggested that unemployment in the EU could have been driven up by an unbalanced *US policy mix* in the early 1980s; restrictive monetary policy combined with expansionary fiscal policy. A number of possible channels were proposed through which higher real interest rates - whatever the cause - might impact on unemployment levels; a rise in price mark-ups in customer markets, a

²⁰ The G-10 study attributes a large part of the rise in real interest rates to fiscal imbalances.

decline in the real (or relative) price of investment goods and output, and in the demand for capital and hoarded labour. It was argued that other factors, such as a rise in the cost of credit or of credit rationing affecting firms with particularly high bankruptcy risks, could also have exacerbated the unemployment problem. Fitoussi and Phelps suggested that for the EU the negative real interest rate effects could in principle dominate the 'traditional' expansionary effects of a foreign fiscal stimulus, while restrictive fiscal and monetary policy in the EU might also have played a part in the rise in unemployment in the early 1980s.

The original Fitoussi and Phelps study analysed the period only up to 1985. Examining the period 1980-96 as a whole, the picture is somewhat different. As reviewed earlier, fiscal situations have varied over the period, but have tended to lead to greater increases in the ratio of debt to GDP in the EU. Thus, the earlier characterisation for the early 1980s of restrictive fiscal policy in the EU, and expansionary policy in the US is not easily maintained. Some coarse evidence supporting the real interest rate hypothesis as a potential contributory factor may be derived from Chart 13, which compares changes in the real interest rate and unemployment for the US and a number of European countries between 1982 and 1995. The correlation between the two series is around 0.72 (varying slightly depending on the method of calculating the *ex ante* inflation rate). According to this chart, real interest rates tended to rise in EU countries, but fell in the US.

However, the relationship between real interest rates and unemployment can be questioned on several grounds (see, for example, Bean (1994) and Woodford (1994)). First, although the negative impact of higher real interest rates operating through the channels described might be sufficient to overturn the so-called 'orthodox' conclusion that the US policy mix would have been expansionary for the EU, that the negative effect of a domestic fiscal expansion (through higher real interest rates) might dominate the impact of higher government spending/lower taxation is less clear. Nor does it prove that the impact would, in any case, be sufficient to explain much of the difference between EU and US unemployment since the early 1980s. Notably, real interest rates have tended to rise throughout the OECD area, but unemployment has not risen in all countries to the same degree²¹. In some cases, real interest rates appear to have risen by

²¹ Trends in unemployment in Spain and Portugal mirror those between the EU and the US. Blanchard and Jimeno (1995) show that, as fiscal trends have been very similar in the two countries, it cannot account for these different trends. Although the paper presents some possible answers, there nevertheless remains something of a puzzle in the very different experiences of the two countries, leading the authors to conclude that "economists are still

less than in the US since the 1970s, yet the rise in unemployment has been greater. Second, the timing of the real interest rate increase post-dates the upward trend in unemployment in the EU (which may be traced back to the 1970s). Third, considering spillover effects, it is necessary to explain why the fiscal consolidation in the US that occurred from the early 1990s, which has seen the deficit fall from 4.4% in 1992 to an estimated 1.9% in 1996, has not proved as beneficial for EU unemployment patterns (via lower real interest rates) as the earlier fiscal expansion proved damaging. Altogether, if the evidence against fiscal policy is incriminating, it would seem to be more as an accomplice than the chief malefactor. A more rigorous empirical investigation of the causes of unemployment, in Scarpetta (1996), casts further doubt on the importance of real interest rates.

One particular disadvantage of a study which focuses on the EU as a whole is that the individual situations facing different countries within the EU may differ significantly. A detailed analysis of *monetary policy* experiences in individual EU countries over the longer term is beyond the scope of this study. Nevertheless, in addition to considering the development of the overall fiscal situation in the EU, it may also be desirable to make some brief reference to average EU-wide monetary policy. In particular, some commentators have argued that the monetary stance in the EU has been unnecessarily tight. According to this line of reasoning, restrictive monetary policy has inhibited economic growth and job creation, and thereby fuelled unemployment. Support for this argument might be looked for in patterns of short- and long-term real and nominal interest rates. Chart 14 shows the term spread for the EU and US from 1982 onwards. In recent years there have been more divergent patterns. In particular, the yield curve has become very steep in the EU, both by historical standards and as compared to the US. Different cyclical positions are clearly one major factor affecting the pattern of these developments²².

Of course, any attempt to rebut this argument faces the difficulty of trying to identify what would have happened if EU countries had conducted a different monetary policy. However, some considerable doubt is cast on this argument by the observation that inflation outcomes in the EU and US have been similar.

a long way from understanding movements in structural unemployment rates across countries and time”.

22 Recent papers by Bernard and Gerlach (1996) and Davis and Fagan (1996) explore the information content of term spreads for a number of countries, concluding that spreads contain information about the future development of macroeconomic variables.

Indeed, although EU inflation has fallen, it has been slightly higher than in the US over recent years. Moreover, it is arguable whether this could account for the differentials in long-term interest rates between the EU and the US, since if actual GDP growth were kept below that of potential over some period this might be expected to lead to lower long-term interest rates.

There are also a number of reasons for being cautious in trying to draw simple parallels between US and EU monetary policy experience. Among these are that the general economic background against which monetary policies have been set has been different in the two cases (such as the degree of synchronisation of cycles, asset price movements, exchange rate developments and fiscal trends), and secondly that underlying economic structures are quite different²³. Nevertheless, in sum, it can be argued that within the limits prescribed by these factors, monetary authorities in the EU have aimed, as in the US, to adjust the monetary stance in order to achieve price stability without excessive tightness that might lead to higher unemployment. Indeed, as the Governor of the Bank of England has emphasised, "...price stability - a sound monetary framework within which businesses and their customers can plan their affairs for the longer term, without the fear that those plans will be upset by erratic and unpredictable fluctuations in the value of money - is the best contribution that we can make to getting unemployment down in the longer term" (Bank of England (1995)).

5. Concluding remarks

Over the period since 1980, the US has outperformed the EU across a range of economic indicators, including real GDP growth and inflation, but attention has been drawn especially to the contrast between labour market developments. Several important caveats need to be borne in mind before attempting to draw comparisons between developments in the EU and the US. First, the situations of individual EU countries vary, both as to the levels of unemployment and the longer term trends. Focusing attention on the EU aggregate obscures the differences that exist at a national level. Second, the data are not fully harmonised. This is likely to have a direct effect on comparisons made between the EU and US, but also implies that the overall EU figures need to be treated

²³ Although it would not be wise to attempt to draw too strong a distinction between the two, since there are clear inter-relationships between the current conjuncture and the underlying economic framework.

with caution. Taking some account of broader measures of unemployment may reduce, but does not entirely remove, the observed gap between EU and US unemployment rates. Of particular concern is the upward trend in EU unemployment which does not appear to have occurred in the US. Although a temporary weakening of activity has exacerbated the unemployment situation, it is widely recognised that economic recovery will not by itself resolve the problem of high unemployment in the EU. Average real GDP growth in the EU has been slightly lower than in the US since 1980, but growth in employment has been markedly weaker, so that the "employment intensity of growth" has been much lower.

The study argues that the difference between the patterns of unemployment in the EU and US can be largely accounted for by structural factors. Indeed, an examination of longer-term trends in the EU and US is useful in highlighting the structural problems facing the EU. Viewed from a longer term perspective, the greatest challenges for the EU appear to be in creating more flexible labour and product markets and in further consolidation of the public finances, which through a reduction in real interest rates - might increase employment.

However, there is no strong evidence to suggest that macroeconomic policy has played more than a fairly minor role in the long-term trend towards higher unemployment in the EU. Fiscal positions may have contributed to higher long-term interest rates, and to higher real interest rates, than in earlier decades, and thereby adversely impacted economic performance. But a number of counter-arguments have been advanced to question the significance of this effect. Monetary policy in both EU countries and in the US can be seen as appropriate over this period in terms of reducing inflationary pressures.

The lesson of the US for the EU that this study draws is not an unfamiliar one; that undertaking structural reform can be expected to pay dividends in terms of producing a more vibrant and dynamic economy in the medium to longer term. It may be important, however, to bear in mind differences in social objectives in the EU and US, to the extent that higher earnings differentials may be considered a necessary accompaniment to lower unemployment (although such a link has not yet been conclusively established). Recalling earlier caveats about the different positions of countries within the EU, it may be noted that the range of structural measures necessary are likely to be different for individual countries.

Selected Bibliography

Andersen, P.S. (1992), "OECD country experiences with disinflation", in edited by A. Blundell-Wignall, *Inflation, disinflation and monetary policy*, Reserve Bank of Australia.

Bank of England (1995), "Macroeconomic management and structural unemployment", Speech by the Governor of the Bank of England, *Bank of England Quarterly Bulletin*, Vol 35, No. 1, pp. 77-83.

Bank for International Settlements (1992), *62nd Annual Report*, Basle.

Bank for International Settlements (1996), *BIS Review*, No. 85, Basle.

Barro, R.J. (1995), "Inflation and economic growth", *Bank of England Quarterly Bulletin*, Vol. 35, No. 2, pp. 166-176.

Bertola, G. and A. Ichino (1995), "Wage inequality and Unemployment: United States vs Europe", NBER Macroeconomics Annual 1995, pp. 13-54.

Bean, C.R. (1994), "European unemployment: a survey", *Journal of Economic Literature*, Vol. XXXII, pp. 573-619.

Bernard, H. and S. Gerlach (1996), "Does the term structure predict recessions? the international evidence", *BIS Working Paper*, No. 37.

Bianchi, M. and G. Zoega (1996), "Unemployment persistence: does the size of the shock matter?", *Bank of England Working Paper Series*, No. 50.

BHF-Bank (1996), "Flexible Arbeitsmarktstrukturen à la USA als Vorbild für Deutschland?", *Wirtschaftsdienst* Nr 1821, Juni.

Blanchard, O. and J.F. Jimeno (1995), "Structural Unemployment: Spain versus Portugal", *AEA Papers and Proceedings*, Vol 85, No. 2, pp. 212-218.

Briault, C. (1995), "The costs of inflation", *Bank of England Quarterly Bulletin*, Vol 35, No. 1, pp. 33-45.

Buiter, W.H. (1995), "Macroeconomic policy during a transition to Monetary Union", *CEPR*.

Council of Economic Advisers (1996), "Job creation and employment opportunities: The United States labor market, 1993-96", a report with the US Department of Labor, Office of the Chief Economist.

Elmeskov, J. and M. MacFarlan (1993), "Unemployment Persistence", *OECD Economic Studies*, N0. 21, pp. 59-88.

Davis, E.P. and G. Fagan (1996), "Are financial spreads useful indicators for forecasting: evidence from EU countries", *Journal of Applied Econometrics*, forthcoming.

Deutsches Institut für Wirtschaftsforschung (1996), *Employment and social policies under international constraints*, Study for the Ministerie van Sociale Zaken en Werkgelegenheid (SZW) in the Netherlands, VUGA.

Elmeskov, J. and M. MacFarlan (1993), "Unemployment persistence", *OECD Economic Studies*, No. 21, Winter, pp. 59-88.

European Commission (1994), *Growth, competitiveness, employment: the challenges and ways forward into the 21st century*, White Paper.

European Commission (1995), "The impact of exchange rate movements on trade within the Single Market", *European Economy*, Reports and Studies, No. 4.

EMI (1996), *Annual Report 1995*, April, Frankfurt am Main.

Fitoussi, J-P and E.S. Phelps (1986), "Causes of the 1980s slump in Europe", *Brookings Papers on Economic Activity*, 2:1986, pp. 487-513.

Group of Ten (1995), "Saving, investment and real interest rates: a study for the Ministers and Governors prepared by the Deputies", October.

Heylen, F. and A. van Poeck (1995), "National labour market institutions and the European economic and monetary integration process", *Journal of Common Market Studies*, Vol. 33, No. 4.

IMF (1994), "Recent labour market reforms in Europe", *World Economic Outlook*, May 1994, pp. 38-39.

IMF (1996), "Policy challenges facing industrial countries in the late 1990s", *World Economic Outlook*, October 1996, pp. 52-56.

Layard, R., Nickell, S. and R. Jackman (1991), *Unemployment: macroeconomic performance and the labour market*, OUP.

Lindbeck, A. (1996), "The West European employment problem", *Weltwirtschaftliches Archiv*, Vol. 132, No. 4, pp. 609-637.

Morgan, J. (1996a), "Structural change in European labour markets", *National Institute Economic Review*, No. 155, Feb.

Morgan, J. (1996b), "What do comparisons of the last two economic recoveries tell us about the UK labour market", *National Institute Economic Review*, No. 156, May, pp. 80-92.

New England Economic Review (1996), Earnings Inequality: proceedings of a symposium on spatial and labor market contributions to earnings inequality, *Federal Reserve Bank of Boston*, Special Issue, May/June.

OECD (1994), *Jobs Study: Evidence and Explanations*, Paris.

OECD (1996), *Economic Outlook*, June.

OECD (1995), *Employment Outlook*, July

OECD (1996), *Employment Outlook*, July.

Phelps, E.S. (1994), *Structural slumps - The modern equilibrium theory of unemployment, interest and assets*, Harvard University Press, Cambridge MA.

Phelps, E.S. (1995), "The structuralist theory of unemployment", *AEA Papers and Proceedings*, pp. 226-231.

Reventa, A.L. and S. Bentolila (1995), "What affects the employment rate intensity of growth?", *Banco de España, Servicio de Estudios*, No. 9517.

Röger, W. and J. in't Veld (1996), "How precisely can the NAIRU be estimated", *European Commission*.

Roseveare, D., Liebfritz, W., Fore, D. and Wurzel, E. (1996), "Ageing populations, pension systems and government budgets: simulations for 20 OECD countries", *OECD Working Paper*, No. 168.

Scarpetta, S. (1996), "Assessing the role of labour market policies and institutional settings on unemployment: a cross-country study", *OECD Economic Studies*, No. 26, pp. 43-98.

Snower, D.J. (1995), "Evaluating unemployment policies: what do the underlying theories tell us?", *Staff Studies for the IMF World Economic Outlook*, September, pp. 71-91.

Staiger, D., Stock, J.H and M.W. Watson (1996), "How precise are estimates of the natural rate of unemployment?", *NBER Working Paper*, No. 5477.

Tyrväinen, T. (1995), "Real wage resistance and unemployment: multivariate analysis of cointegrating relations in 10 OECD countries", *OECD Jobs Study Working Paper Series*, No. 10.

Woodford, M. (1994), "Structural slumps", *Journal of Economic Literature*, December, 32(4), pp. 1784-1815.

Table 1: Measured unemployment rates in the EU and US (1993)

	Unemployment rate	Supplementary measures		Total	
		Discouraged workers	Involuntary part-time		Weights
BE	8.1	1.5	3.8	11.4	2.53
DK	10.8	1.6	4.8	14.7	1.78
DE	7.7	...	1.5	8.5	24.29
GR	9.6	0.3	3.1	11.4	2.55
ES	22.4	0.2	1.0	23.1	9.48
FR	11.4	0.2	4.8	14.0	15.35
IE	15.3	0.5	3.3	17.4	0.86
IT	10.2	2.6	2.3	13.6	14.04
NL	7.2	0.6	5.6	10.6	4.40
PT	5.5	0.1	1.8	6.5	2.93
FI	19.2	1.5	2.9	21.9	1.56
SE	5.3	2	6.2	10.2	2.69
UK	10.3	0.6	3.2	12.5	17.54
EU	10.7	0.7	2.9	12.8	100.0
US	6.9	0.9	5.0	10.2	...

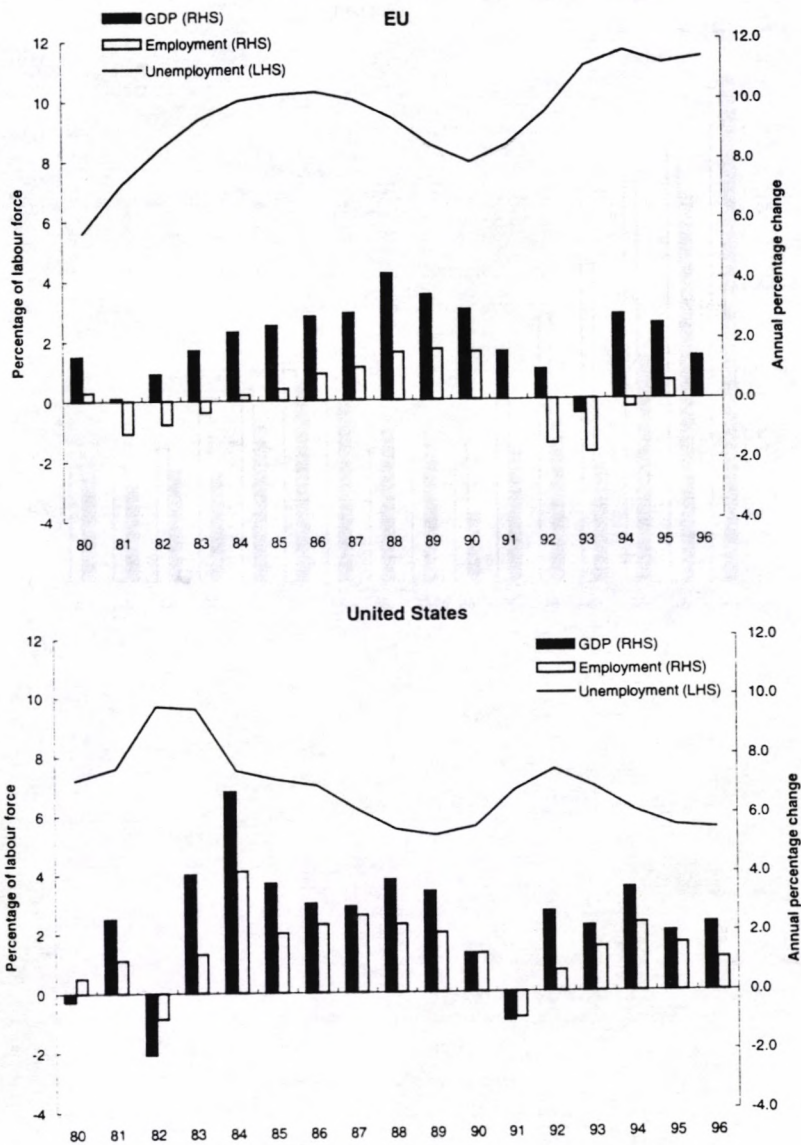
Source: OECD Employment Outlook (1995)

Table 2: Main macroeconomic series for the EU and the US

	EU					US						
	1980-96	1980-85	1986-96	1994	1995	1996f	1980-96	1980-85	1986-96	1994	1995	1996f
Real GDP	2.0	1.5	2.3	2.8	2.5	1.4	2.4	2.4	2.4	3.5	2.0	2.3
CPI inflation(a)	6.2	9.7	4.1	3.1	3.1	-	4.8	6.8	3.6	2.6	2.8	-
Labour markets:												
Employment	0.1	-0.2	0.4	-0.3	0.6	0.0	1.5	1.4	1.5	2.3	1.6	1.1
Unemployment	9.4	8.5	10.0	11.6	11.2	11.4	6.9	8.1	6.2	6.1	5.6	5.5
Participation	66.1	65.6	66.4	66.4	66.2	66.3	74.5	71.8	76.0	77.0	77.1	77.1
Fiscal positions:												
Deficits	4.6	4.8	4.5	5.8	5.3	4.8	2.7	2.7	2.7	2.3	2.0	1.9
Debts	59.7	49.4	65.4	72.8	76.3	78.1	52.8	42.0	58.7	63.7	64.3	64.1
Interest rates (b):												
Short-term	9.4	11.5	8.7	6.3	6.8	5.4	6.5	9.1	5.5	4.2	5.5	5.1
Long-term	10.0	12.3	9.1	8.2	8.6	7.7	8.7	11.8	7.6	7.1	6.6	6.6

Source: OECD, Economic Outlook (June 1996)
(a) to 1995 only, (b) from 1982 only.

Chart 1: Unemployment rate, employment and GDP growth



Source: OECD.

Chart 2:

CPI Inflation rates
(Per cent)

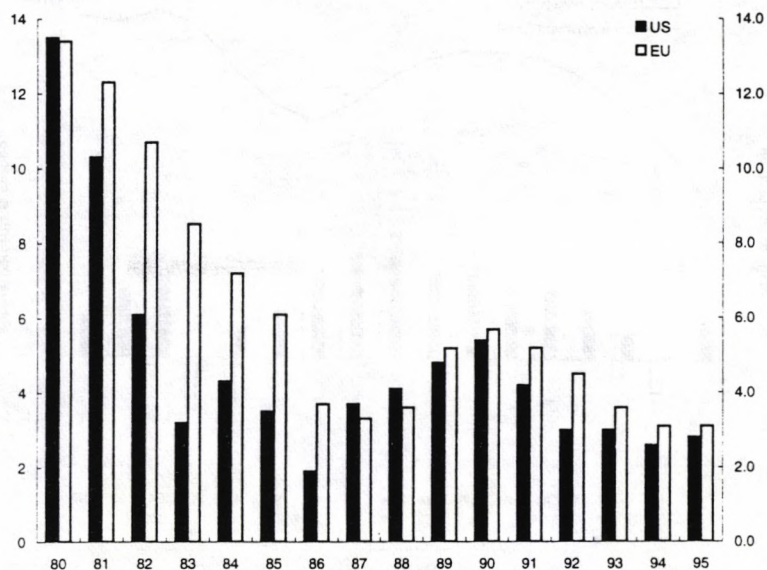
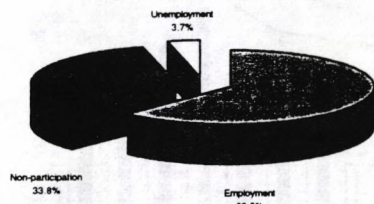


Chart 3:

Labour force, employment and unemployment 1980

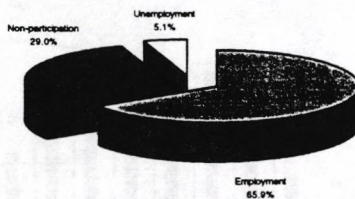
EU

Working age population = 218.4 (millions)



US

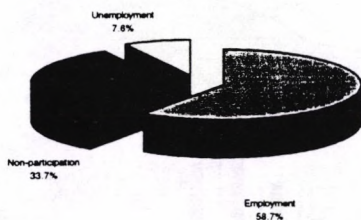
Working age population = 150.7 (millions)



1996

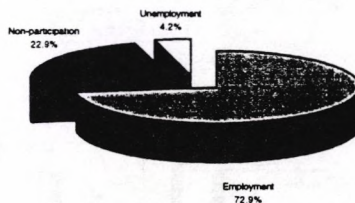
EU

Working age population = 249.2



US

Working age population = 173.3

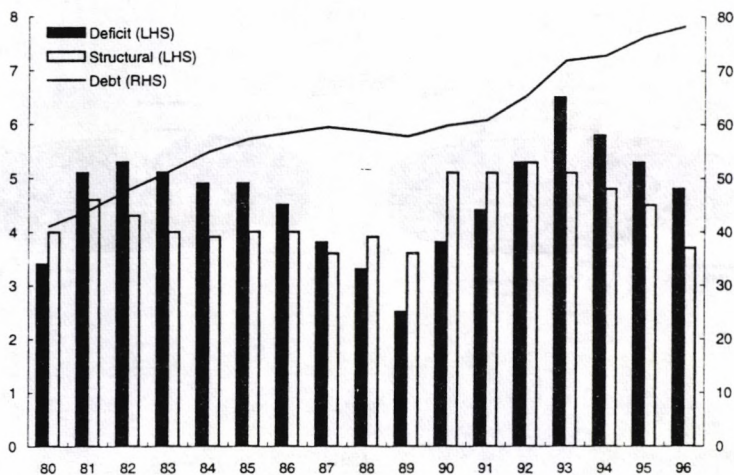


Source: OECD.

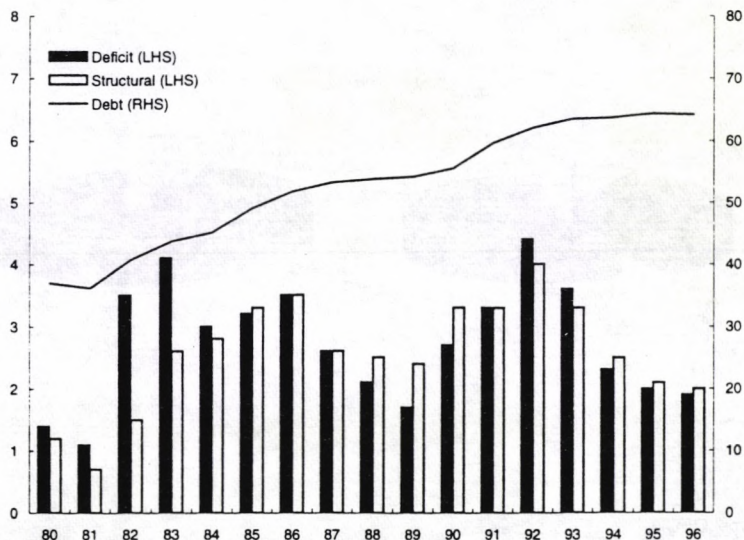
Chart 4:

Fiscal positions
(Percentage of GDP)

EU



United States



Source: OECD.

Chart 5:

Short-term interest rates
(Per cent)

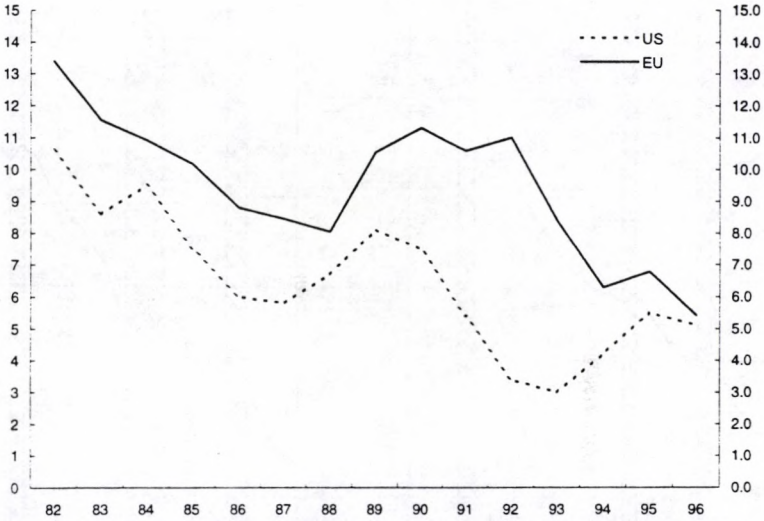
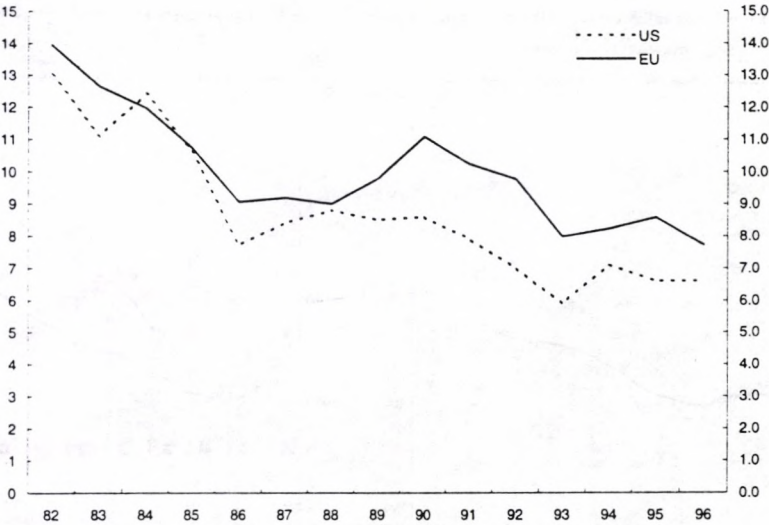


Chart 6:

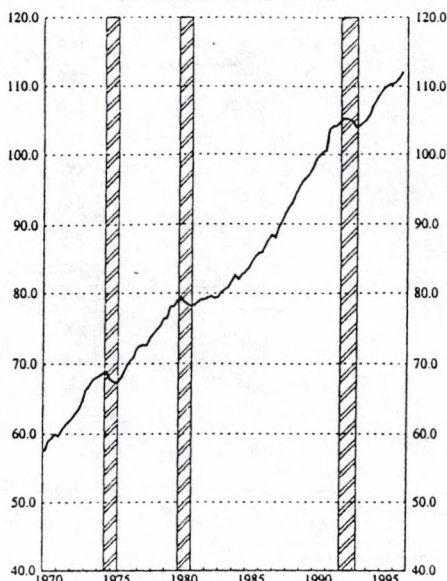
Long-term interest rate
(Per cent)



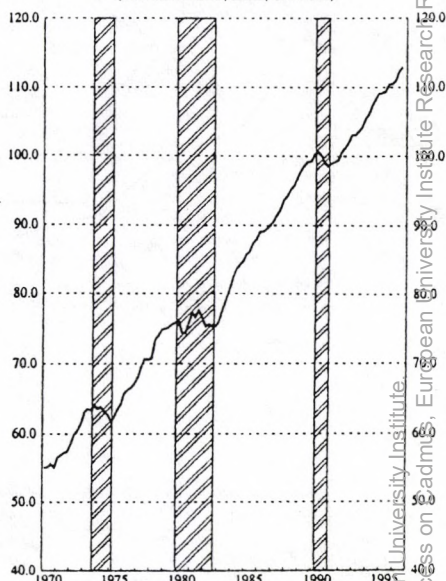
Source: OECD, EU figures exclude Greece, Luxembourg and Portugal.

Chart 7: Cyclical developments in GDP

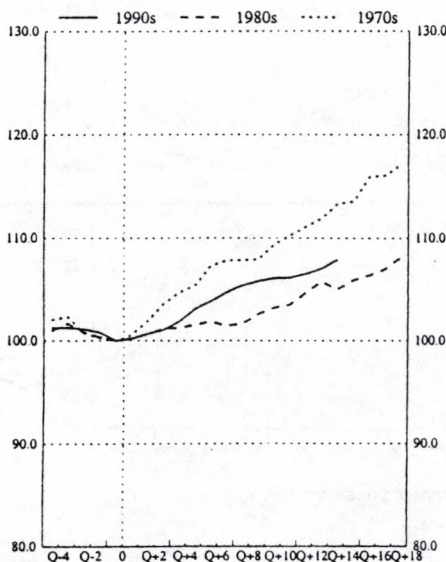
EU5*: Real GDP level**
(TPs: actual GDP, Index, 1990=100)



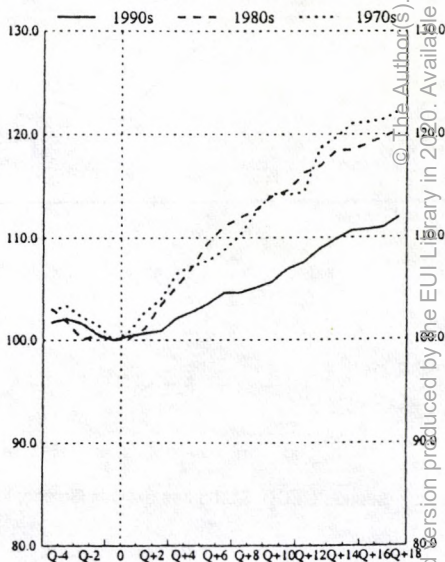
US: Real GDP level**
(TPs: actual GDP, Index, 1990=100)



EU5: Latest and previous cycle comparisons - Real GDP
(TPs: actual GDP, index, trough=100)



US: Latest and previous cycle comparisons - Real GDP
(TPs: actual GDP, index, trough=100)



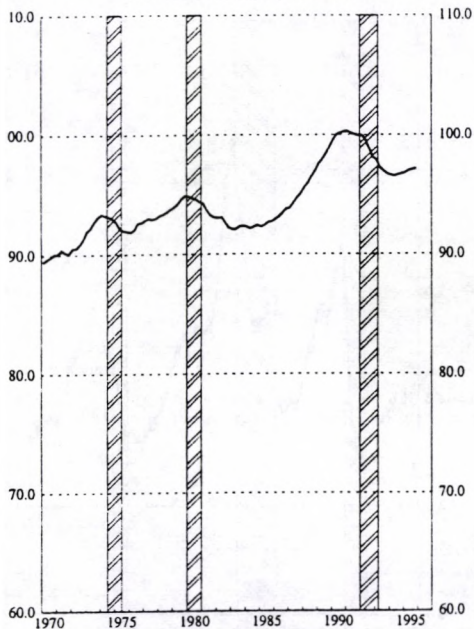
Source: National data

* EU-5: Germany, Spain, France, Italy and the United Kingdom

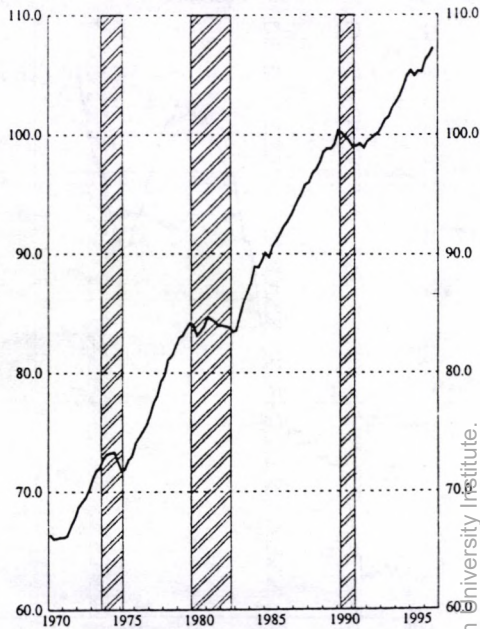
** shaded periods correspond to recessions (peak-to-trough).

Chart 8: Cyclical developments in employment

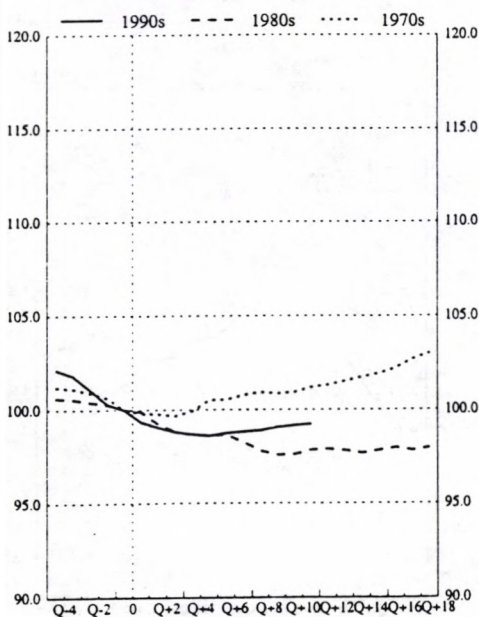
EU5*: Employment level**
(TPs: actual GDP, Index, 1990=100)



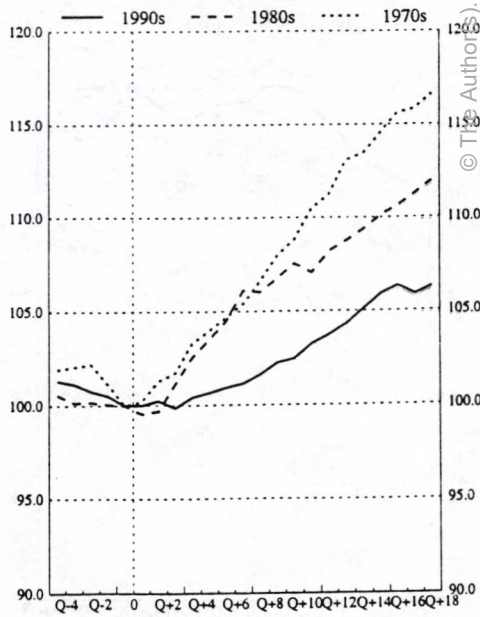
US: Employment level**
(TPs: actual GDP, Index, 1990=100)



EU5: Latest and previous cycle comparisons - Employment
(TPs: actual GDP, index, trough=100)



US: Latest and previous cycle comparisons - Employment
(TPs: actual GDP, index, trough=100)

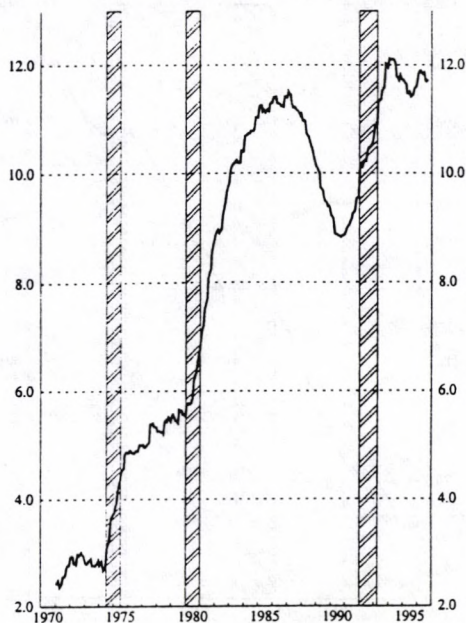


Source: National data

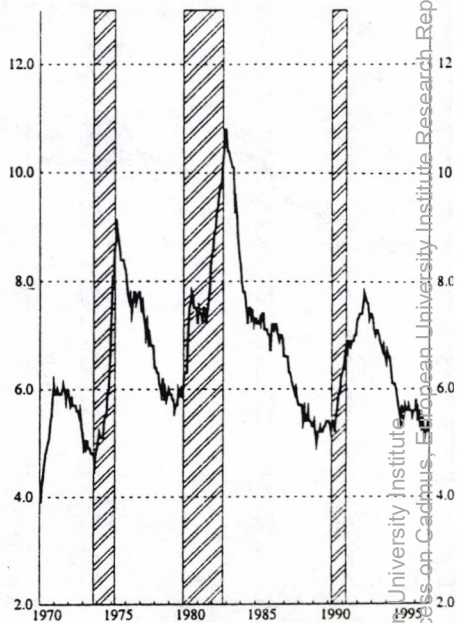
** shaded periods correspond to recessions (peak-to-trough).

Chart 9: Cyclical developments in unemployment rates

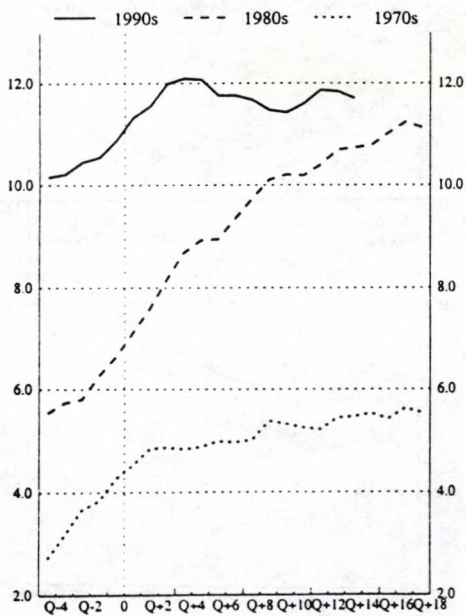
EU5*: Unemployment rate**
(TPs: actual GDP)



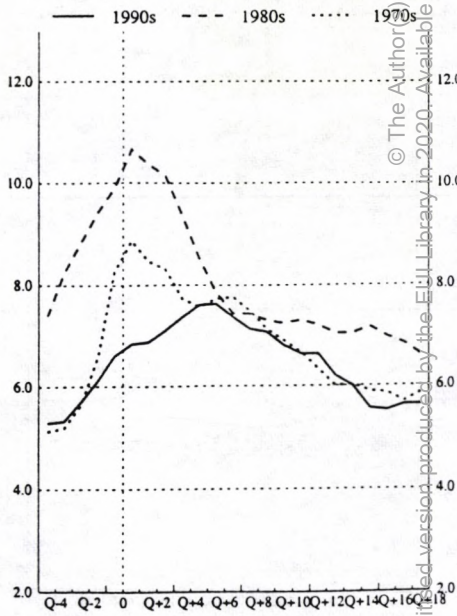
US: Unemployment rate**
(TPs: actual GDP)



EU5: Latest and previous cycle comparisons - Unemployment rates
(TPs: actual GDP)



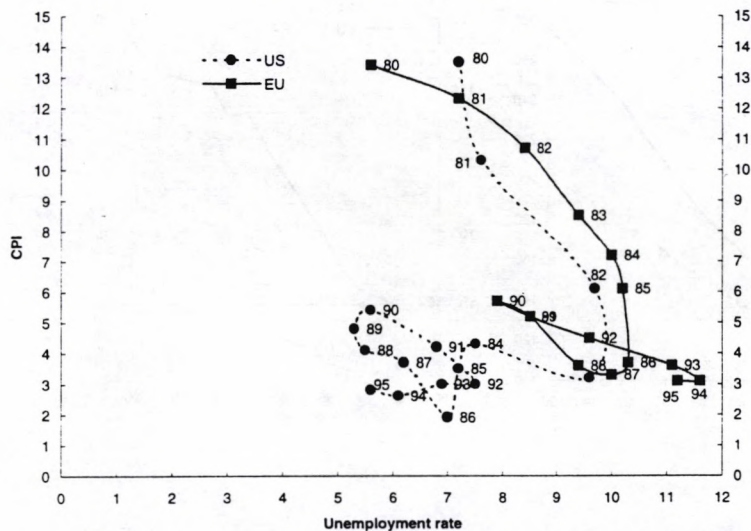
US: Latest and previous cycle comparisons - Unemployment rates
(TPs: actual GDP)



Source: National data

** shaded periods correspond to recessions (peak-to-trough).

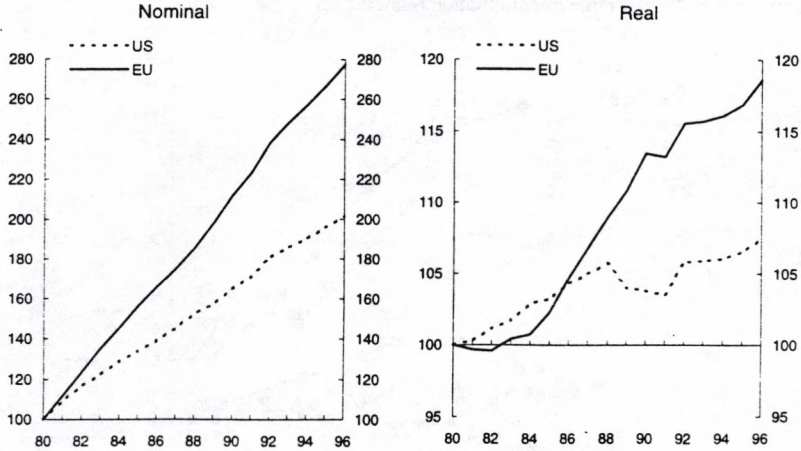
Chart 10: Unemployment-inflation relationship



Source: OECD.

Chart 11:

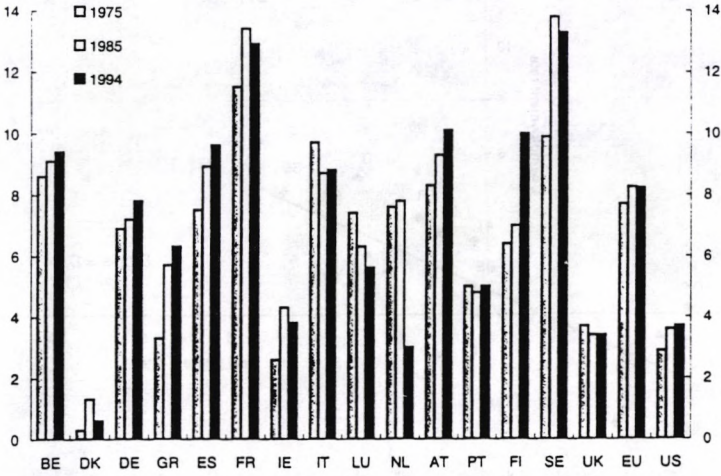
Compensation per employee in EU and US



Source: OECD.

Chart 12

Employers social security contribution and payroll tax
(Percentage of GDP)



Source: Revenue statistics of OECD member countries 1965-1995, OECD, 1996 edition.

Chart 13: Changes in real interest rate and unemployment rate (1982 to 1995)
(Per cent)

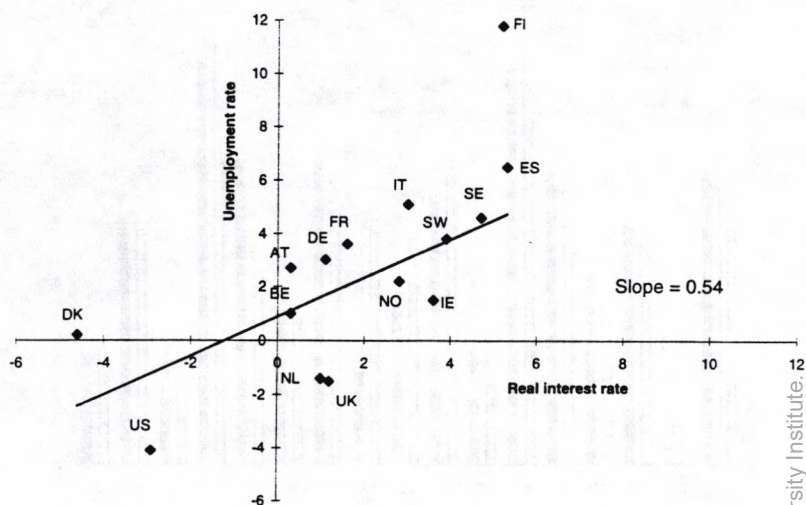
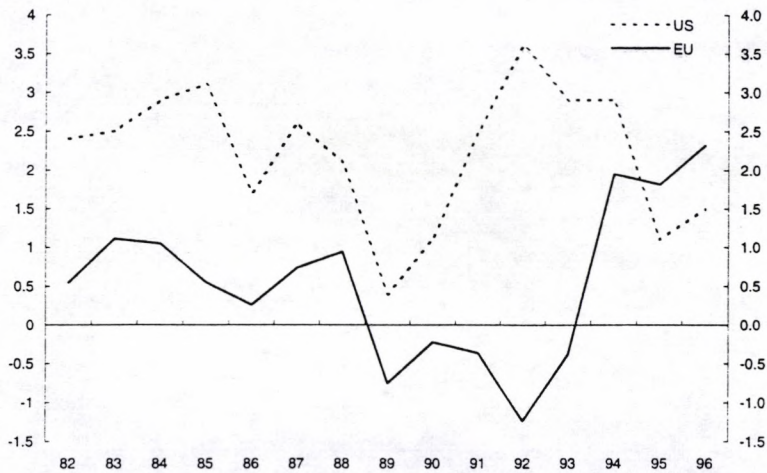


Chart 14:

Yield gap
(Per cent)



Source: OECD.



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